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# Knowledge acquisition behaviour of small and marginal farmers regarding improved cultivation practices pigeonpea crop

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**Abstract**
The investigation was carried out in twelve villages of Hyderabad-Karnataka region to know the knowledge acquisition behaviour of small and marginal farmers regarding improved cultivation practices pigeonpea crop with the sample of 120. The study revealed that, that majority (83.33 %) of the small and marginal farmers of pigeonpea crop growers were used interpersonal sources for acquisition of knowledge on improved cultivation practices of pigeonpea crop were friends, neighbors, family members, relatives, village leader, input dealers and gram panchayat members. Further, cent per cent of the small and marginal farmers of pigeonpea crop growers never used internet as a means to acquisition of knowledge with respect improved cultivation practices pigeonpea crop.

**Keywords:** Knowledge acquisition behaviour, pigeonpea, improved cultivation practices, small and marginal farmers

## Introduction
Pigeonpea commonly known as tur and arhar is one of the major pulse crops of tropics and subtropics, it is an ancient crop of the country. It finds an important place in cropping systems of small farmers in developing countries. After chickpea, Pigeonpea is the second most important pulse crop in the country. Pigeonpea is considered to be native of peninsula, India. It is a short annual crop in India, the crop has a deep root system and hence highly drought tolerant. The main use is in the form of dhal in the Indian diet. Its green seeds are used as vegetable. It has good nutritive value. Besides the human diet, the green leaves and dry seeds of Pigeonpea are used as fodder for animals. green manure, wind breaks, as live fence for boundaries of small farms.

Knowledge plays a significant role whenever change, innovation and growth are being pursued in a competitive and complex field. Agriculture today is just such a field. Leveraging knowledge is thus a critical input in the transformation of Indian agriculture from subsistence to market-oriented economic sector. A demand-driven agricultural knowledge management system facilitates access to and adoption of appropriate technologies and processes from research and development institutions.

Knowledge management can play a pivotal role in enhancing agricultural productivity and addressing the problem of food insecurity. If properly managed, it enables appropriate knowledge to reach knowledge intermediaries and farmers in a timely manner. Such delivery of knowledge undoubtedly minimizes the risk and uncertainty farmers face from production to marketing of their produce. But, to effectively engage in agricultural knowledge management, adequate mechanisms are needed for generating, capturing, and disseminating knowledge through the use of effective processes and institutional arrangements. Sources of agricultural knowledge include scientific research and indigenous knowledge. (Habtemariam Assefa, 2010). After the creation, sourcing or accumulation of knowledge, the knowledge has to be disseminated to users to support the innovation process.

## Methodology
Study conducted in twelve villages of three districts of Hyderabad-Karnataka region, From each selected villages 10 pigeonpea (5 small and 5 marginal farmers) were selected by using

simple random sampling technique. Thus, the study sample comprised of 120 pigeonpea growers (60 small and 60 marginal farmers). The total sample selected for the study was 120 respondents.

**Acquisition of knowledge**

The knowledge acquisition refers to the activities performed by an individual farmer in relation to attainment of scientific knowledge with regards to the improved cultivation practices of pigeonpea and chickpea from various knowledge sources.

The procedure suggested by Bhople (1995) [1] and followed by Jyothi (2000) [3] and Ravindrakumar (2006) [5] was followed to measure knowledge acquisition of respondents with little modification.

Based on the available literature, discussion with extension functionaries all possible farm knowledge sources were exhaustively listed under different heading namely Inter personal sources, Institutional sources and Mass media/ICTs sources. Frequency of contact of different knowledge sources was measured on a three point continuum of 'regular', 'occasional' and 'never' with a scoring of 2,1 and 0 respectively.

The total score for a respondent is obtained by summing up the score obtained on each individual component.

**Result and discussion**

**Knowledge acquisition behaviour of small farmers regarding improved cultivation practices of pigeonpea crop**

**Interpersonal sources**

A perusal of Table 1 indicates that majority (83.33 %) of the small farmers of pigeonpea crop used interpersonal sources for acquisition of knowledge on improved cultivation practices of pigeonpea crop were friends, followed by neighbours (28.33 %), family members (26.67%), relatives (26.67%), village leader (16.67 %), input dealers (8.33 %), and gram panchayat members (5.00 %) were consulted regularly. %). Friends are localite in nature, involving face to face contact and easily accessible. Another reason may be high credibility and authenticity attached to the source. These may the probable reasons for above findings.

The high majority small farmers of pigeonpea crop also acquired the required knowledge occasionally from village leaders (71.67 %), relatives (70.00 %) and neighbours (66.67 %). Further, gram panchayat members were never consulted by the majority (91.67 %) of the respondents for acquisition of required knowledge, followed by input dealers (30.00 %), village leaders (11.67 %) and family members (10.00 %).

**Institutional sources**

It was observed from the Table 1 that, nearly twenty per cent of the small farmers of pigeonpea crop acquired the required knowledge regularly from Agriculture Officer (18.33 %), followed by Agriculture Assistant (13.33 %) and Assistant director of Agriculture (1.67 %). Whereas, seventy per cent of the respondents contacted the Agriculture Assistant occasionally to acquire the required knowledge, followed by the Agriculture Officer (56.67 %). Further, majority (98.33 % and 96.67 %) of the small farmers of pigeonpea crop never consulted the Joint Director of Agriculture, and Deputy Director of Agriculture respectively. Farmers are frequently visited the RSK to purchase the agriculture inputs like seeds, fertilizer, plant protection chemicals and avail the benefits of various government schemes which are meant for empowerment of farmers. These may the probable reasons for above findings.

Further it was noticed from the results that, the small farmers of pigeonpea crop also sought the required knowledge regularly from Krishi Vigyan Kendra (25.00 %) and Agriculture Extension Education Centre (6.67 %). Further it was found that, more than half of the respondents contacted occasionally to Krishi Vigyan Kendra (60.00 %) and Agriculture Research Station (31.67 %). On the other hand high majority (73.33 %) of the small farmers of pigeonpea crop never contacted the Agriculture Extension Education Centre and by Agriculture Research Station (65.00 %) respectively. This is because of KVK and AEEC acts as a catalyst between research station and clientele as the mandate of these two extension institutions are to be transmitted the technologies which are evolved by the research stations to farming community by organising suitable extension programmes. These might be the reasons for above findings.

Further observed from the results that, very less (13.33 %) of the small farmers of pigeonpea crop consulted private company/firm and non government organizations regularly, followed by occasionally (60.00 %) and never (26.67%).

**Mass media/ICTs sources**

It could be observed from the Table 1 that, less majority (20.00 %) of the small farmers of pigeonpea crop acquired the required knowledge from television followed by mobile phone **(**13.33 %), news paper **(**10.00 %) and radio **(**8.33 %) regularly. Whereas, other means such as farm magazines/publications and internet was not used by none of the respondents regularly.

Television was viewed occasionally by the majority (66.67 %) of the small farmers of pigeonpea crop to acquire the necessary knowledge about the improved cultivation practices of pigeonpea, followed by news paper (48.33 %). Further, thirty per cent of the small farmers of pigeonpea crop gathered the information occasionally from mobile phones and the 18.33 per cent of the respondents used radio and farm magazines/publications occasionally as a means of acquisition of knowledge.

It is interested to from the results that, cent per cent of the small farmers of pigeonpea crop never used internet as a means to acquisition of knowledge, followed by farm magazines/publications (83.33 %), radio (73.33 %), mobile phone (56.67 %), news paper (41.67 %) and television (13.33 %) of the small farmers of pigeonpea crop were not used for acquisition of knowledge. None of the respondents used the internet sources due to lack of knowledge, non availability of internet services in remote area and difficulty in accessing the internet. The above findings are in line with the findings of Ravindra Kumar (2006) [5].

**Knowledge acquisition behaviour of marginal farmers regarding improved cultivation practices of pigeonpea crop**

**Interpersonal sources**

The result presented in the Table 2 revealed that, majority (63.33 %) of the marginal farmers contacted their family members to acquire a required knowledge regularly with respect to improved cultivation practices of pigeonpea, followed by friends (58.33 %), village leaders (25.00 %), relatives (21.67 %), neighbours (18.33 %) and input dealers (16.67 %).

The other means such as neighbours, relatives, village leaders and input dealers used occasionally as a means of knowledge

acquisition sources by majority of the marginal farmers of pigeonpea crop 78.33, 75.00, 63.33 and 60.00 per cent respectively. Further, 31.67 and 30.00 per cent of the respondents contacted the family members and friends occasionally, followed by gram panchayat members (8.33 %). Further it was serious to note from the results that, majority (91.67 %) of marginal farmers of pigeonpea crop never contacted the gram panchayat members, followed by input dealers (23.33 %), friends (11.67 %), village leaders (11.67 %), and family members (5.00 %).

**Institutional sources**

In case of institutional sources, only 13.33 per cent of marginal farmers acquired the knowledge regularly from Agriculture Officer, and Agriculture Assistant (6.67 %). Whereas, Agriculture Assistant, Agriculture Officer and Assistant Director of Agriculture, were contacted occasionally by 61.67, 60.00 and 33.33, per cent of the respondents respectively. Major proportion of respondents (96.67 %) never contacted the Joint Director of Agriculture to acquire the knowledge with respect to improved cultivation practices of pigeonpea, followed by Deputy Director of Agriculture (85.00 %), (Dorine Adhiambo Odongo, 2013) [2].

Among of TOT centres of State Agriculture University, only meagre per cent (6.67 %) of the respondents acquire the knowledge from Krishi Vigyan Kendra, regularly. Whereas, majority (88.33 %) of the respondents never acquired the knowledge from Agriculture Extension Education Centre followed by Agriculture Research Station (76.67 %). Only Five per cent of the respondents had a regular contact with private company/firm and non government organizations followed by occasionally (58.33 %) and never (36.67 %).

**Mass media/ICTs sources**

It could be noticed from the Table 2 that, less than ten per cent of the marginal farmers of pigeonpea crop acquire the knowledge regularly by viewing television (8.33 %), followed by mobile (6.67 %), reading news papers (5.00 %) and listening radio (3.33 %).

With respect to occasional contact, only (35.00 %) of the marginal farmers of pigeonpea crop acquire the knowledge by viewing television, followed by reading news papers (26.67 %), mobile phone (15.00 %), listening radio (11.67 %) and farm magazines/publications (3.33 %).

Further, cent per cent of the marginal farmers of pigeonpea crop never used the internet as a means for acquisition of knowledge about improved cultivation practices of pigeonpea, followed by farm magazines/publications (96.67 %), radio (85.00 %), mobile phone (78.33 %), news paper (68.33 %) and television (56.67 %).

**Table 1:** Acquisition of knowledge by small farmers regarding improved cultivation practices of pigeonpea, n=60

| S. No. | Means of Acquisition | Acquisition of knowledge | | | | | |
|---|---|---|---|---|---|---|---|
| | | Regularly | | Occasionally | | Never | |
| | | F | % | F | % | F | % |
| **Interpersonal sources** | | | | | | | |
| 1 | Family members | 16 | 26.67 | 38 | 63.33 | 6 | 10.00 |
| 2 | Friends | 50 | 83.33 | 10 | 16.67 | 0 | 0.00 |
| 3 | Relatives | 16 | 26.67 | 42 | 70.00 | 2 | 3.33 |
| 4 | Neighbours | 17 | 28.33 | 40 | 66.67 | 3 | 3.33 |
| 5 | Gram panchayat members | 3 | 5.00 | 2 | 3.33 | 55 | 91.67 |
| 6 | Village leaders | 10 | 16.67 | 43 | 71.67 | 7 | 11.67 |
| 7 | Input dealers | 5 | 8.33 | 37 | 61.67 | 18 | 30.00 |
| **Institutional sources** | | | | | | | |
| 1 | **Karnataka State Department of Agriculture** | | | | | | |
| | Agriculture Assistant | 8 | 13.33 | 42 | 70.00 | 10 | 16.67 |
| | Agriculture Officer Agriculture | 11 | 18.33 | 34 | 56.67 | 15 | 25.00 |
| | Assistant Director Agriculture | 1 | 1.67 | 9 | 15.00 | 50 | 83.33 |
| | Deputy Director Agriculture | 0 | 0.00 | 2 | 3.33 | 58 | 96.67 |
| | Joint Director Agriculture | 0 | 0.00 | 1 | 1.67 | 59 | 98.33 |
| 2 | **TOT centres of State Agriculture University** | | | | | | |
| | Krishi Vigyan Kendra | 15 | 25.00 | 36 | 60.00 | 10 | 16.67 |
| | Agriculture Extension Education Centre | 4 | 6.67 | 12 | 20.00 | 44 | 73.33 |
| | Agriculture Research Station | 2 | 3.33 | 19 | 31.67 | 39 | 65.00 |
| 3 | Private company/firm and Non Government Organizations | 8 | 13.33 | 36 | 60.00 | 16 | 26.67 |
| **Mass Media/ICTs sources** | | | | | | | |
| 1 | Television | 12 | 20.00 | 40 | 66.67 | 8 | 13.33 |
| 2 | Radio | 5 | 8.33 | 11 | 18.33 | 44 | 73.33 |
| 3 | News paper | 6 | 10.00 | 29 | 48.33 | 25 | 41.67 |
| 4 | Farm magazines/publications | 0 | 0.00 | 10 | 16.67 | 50 | 83.33 |
| 5 | Internet | 0 | 0.00 | 0 | 0.00 | 60 | 100.00 |
| 6 | Mobile phone | 8 | 13.33 | 18 | 30.00 | 34 | 56.67 |

**Table 2:** Acquisition of knowledge by marginal farmers regarding improved cultivation practices of pigeonpea, n=60

| S. No. | Means of Acquisition | Acquisition of knowledge | | | | | |
|---|---|---|---|---|---|---|---|
| | | Regularly | | Occasionally | | Never | |
| | | F | % | F | % | F | % |
| **Interpersonal sources** | | | | | | | |
| 1 | Family members | 38 | 63.33 | 19 | 31.67 | 3 | 5.00 |
| 2 | Friends | 35 | 58.33 | 18 | 30.00 | 7 | 11.67 |
| 3 | Relatives | 13 | 21.67 | 45 | 75.00 | 2 | 3.33 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Neighbours | 11 | 18.33 | 47 | 78.33 | 2 | 3.33 |
| 5 | Gram panchayat members | 0 | 0.00 | 5 | 8.33 | 55 | 91.67 |
| 6 | Village Leaders | 15 | 25.00 | 38 | 63.33 | 7 | 11.67 |
| 7 | Input dealers | 10 | 16.67 | 36 | 60.00 | 14 | 23.33 |
| **Institutional sources** | | | | | | | |
| 1 | **Karnataka State Department of Agriculture** | | | | | | |
| | Agriculture Assistant | 4 | 6.67 | 37 | 61.67 | 19 | 31.67 |
| | Agriculture Officer Agriculture | 8 | 13.33 | 36 | 60.00 | 16 | 26.67 |
| | Assistant Director Agriculture | 10 | 16.67 | 20 | 33.33 | 30 | 50.00 |
| | Deputy Director Agriculture | 0 | 0.00 | 9 | 15.00 | 51 | 85.00 |
| | Joint Director Agriculture | 0 | 0.00 | 2 | 3.33 | 58 | 96.67 |
| 2 | **TOT centres of State Agriculture University** | | | | | | |
| | Krishi Vigyan Kendra | 4 | 6.67 | 44 | 73.33 | 12 | 20.00 |
| | Agriculture Extension Education Centre | 0 | 0.00 | 7 | 11.67 | 53 | 88.33 |
| | Agriculture Research Station | 0 | 0.00 | 14 | 23.33 | 46 | 76.67 |
| 3 | Private company/firm and Non Government Organizations | 3 | 5.00 | 35 | 58.33 | 22 | 36.67 |
| **Mass Media/ICTs sources** | | | | | | | |
| 1 | Television | 5 | 8.33 | 21 | 35.00 | 34 | 56.67 |
| 2 | Radio | 2 | 3.33 | 7 | 11.67 | 51 | 85.00 |
| 3 | News paper | 3 | 5.00 | 16 | 26.67 | 41 | 68.33 |
| 4 | Farm magazines/publications | 0 | 0.00 | 2 | 3.33 | 58 | 96.67 |
| 5 | Internet | 0 | 0.00 | 0 | 0.00 | 60 | 100.00 |
| 6 | Mobile phone | 4 | 6.67 | 9 | 15.00 | 47 | 78.33 |

## Conclusion

The findings indicated that relatives, neighbors, family members and friends were the main means used by the respondents for knowledge acquisition. With regard to modern channel like internet and website is very meager, since this is a era of liberalization, globalization (under the contest of GATT and WTO regime) there is a need to create awareness among the farmers for their survival. The policy makers and administrators should take care to design awareness programmes regarding internet and agriculture based website, agriculture portals and making easy accessibility of these sources at village level. Information kiosk at village level should be established for increasing the usage of these sources by the farmers.

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